

# American Journal of Physiology- Heart and Circulatory Physiology

No. 1. JULY 2000

- Comparison of cerebrovascular effects of intravenous cocaine injection in fetal, newborn, and adult sheep  
*R. Robinson, H. Iida, T. P. O'Brien, M. A. Pane, R. J. Traystman, and C. A. Gleason* H1
- Reactive oxygen species may contribute to reduced endothelium-dependent dilation in rats fed high salt  
*D. M. Lenda, B. A. Sauls, and M. A. Boegehold* H7
- Modulation of arrhythmias by isoproterenol in a rabbit heart model of *d*-sotalol-induced long Q-T intervals  
*J. F. Spear and E. Moore* H15
- Diacylglycerol and fatty acids synergistically increase cardiomyocyte contraction via activation of PKC  
*Y. Pi and J. W. Walker* H26
- Coexpression with  $\beta_1$ -subunit modifies the kinetics and fatty acid block of  $\text{hH1}_\alpha$   $\text{Na}^+$  channels  
*Y.-F. Xiao, S. N. Wright, G. Wang, J. P. Morgan, and A. Leaf* H35
- Diameter changes in skeletal muscle venules during arterial pressure reduction  
*J. J. Bishop, P. R. Nance, A. S. Popel, M. Intaglietta, and P. C. Johnson* H47
- SHR Y chromosome enhances the nocturnal blood pressure in socially interacting rats  
*A. Caplea, D. Seachrist, G. Dunphy, and D. Ely* H58
- Neurotransmission of autonomic components of aortic baroreceptor afferents in the NTS of awake rats  
*B. H. Machado, J. A. Castania, L. G. H. Bonagamba, and H. C. Salgado* H67
- Mechanism of effect of extracellular pH on L-type  $\text{Ca}^{2+}$  channel currents in human mesenteric arterial cells  
*S. V. Smirnov, G. A. Knock, A. E. Belevych, and P. I. Aaronson* H76
- Effects of losartan treatment on cardiac autonomic control during volume loading in patients with DCM  
*M. Petretta, L. Spinelli, F. Marciano, C. Apicella, M. L. E. Vicario, G. Testa, M. Volpe, and D. Bonaduce* H86
- Effect of selective  $\text{ET}_\text{A}$  receptor blockade on natriuretic peptide gene expression in DOCA-salt hypertension  
*L. G. Bianciotti and A. J. De Bold* H93
- Transmural distribution of FDG uptake in stunned myocardium  
*J. A. Fallavollita, C. Trojan, and J. M. Canty, Jr.* H102
- Cumulative plot of heart rate variability spectrum assesses kinetics of action of cholinergic drugs in rats  
*I. Perlstein and A. Hoffman* H110
- Cardiac interstitial bradykinin release during ischemia is enhanced by ischemic preconditioning  
*H.-L. Pan, S.-R. Chen, G. M. Scicli, and O. A. Carretero* H116
- Short-term variability of pulse pressure and systolic and diastolic time in heart transplant recipients  
*D. Chemla, E. Aptekar, J.-L. Hébert, C. Coirault, D. Loisanee, Y. Lecarpentier, and A. Nitenberg* H122
- Existence of a transient outward  $\text{K}^+$  current in guinea pig cardiac myocytes  
*G.-R. Li, B. Yang, H. Sun, and C. M. Baumgarten* H130
- Changes in ionic currents and  $\beta$ -adrenergic receptor signaling in hypertrophied myocytes overexpressing  $\text{G}\alpha_\text{q}$   
*S. Mitarai, T. D. Reed, and A. Yatani* H139

Acute cardiovascular response to isocapnic hypoxia. I. A mathematical model <i>M. Ursino and E. Magosso</i>	H149
Acute cardiovascular response to isocapnic hypoxia. II. Model validation <i>M. Ursino and E. Magosso</i>	H166
Biochemical mechanism(s) of stunning in conscious dogs <i>H. Lüss, A. Meissner, N. Rolf, H. Van Aken, P. Bokník, U. Kirchhefer, J. Knapp, S. Læer, B. Linck, I. Lüss, F. U. Müller, J. Neumann, and W. Schmitz</i>	H176
Low $[Mg^{2+}]_o$ induces contraction of cerebral arteries: roles of tyrosine and mitogen-activated protein kinases <i>Z.-W. Yang, J. Wang, T. Zheng, B. T. Altura, and B. M. Altura</i>	H185
Free radicals upregulate complement expression in rabbit isolated heart <i>E. J. Tanhehco, K. Yasojima, P. L. McGeer, R. A. Washington, and B. R. Lucchesi</i>	H195
Colocalization of dihydropyridine and ryanodine receptors in neonate rabbit heart using confocal microscopy <i>F. Sedarat, L. Xu, E. D. W. Moore, and G. F. Tibbits</i>	H202
Effects of exercise training on LV performance and mortality in a murine model of dilated cardiomyopathy <i>K. T. Spencer, K. Collins, C. Korcarz, R. Fentzke, R. M. Lang, and J. M. Leiden</i>	H210
Maturation of end-systolic stress-strain relations in chick embryonic myocardium <i>K. Tobita and B. B. Keller</i>	H216
Postextrasystolic contractile decay always contains exponential and alternans components in canine heart <i>J. Shimizu, J. Araki, G. Iribe, T. Imaoka, S. Mohri, K. Kohno, H. Matsubara, T. Ohe, M. Takaki, and H. Suga</i>	H225
Increases in leptin levels, sympathetic drive, and weight gain in obstructive sleep apnea <i>B. G. Phillips, M. Kato, K. Narkiewicz, I. Choe, and V. K. Somers</i>	H234
Altered cardiac excitation-contraction coupling in ventricular myocytes from spontaneously diabetic BB rats <i>J. Ren and A. M. Bode</i>	H238
Isometric handgrip training reduces arterial pressure at rest without changes in sympathetic nerve activity <i>C. A. Ray and D. I. Carrasco</i>	H245
Electrotonic suppression of early afterdepolarizations in isolated rabbit Purkinje myocytes <i>D. J. Huelsing, K. W. Spitzer, and A. E. Pollard</i>	H250
Basic FGF reduces stunning via a NOS2-dependent pathway in coronary-perfused mouse hearts <i>T. G. Hampton, I. Amende, J. Fong, V. E. Laubach, J. Li, C. Metais, and M. Simons</i>	H260
Reinforcement of arteriolar myogenic activity by endogenous ANG II: susceptibility to dietary salt <i>T. R. Nurkiewicz and M. A. Boegehold</i>	H269
Microvascular dilation in response to occlusion: a coordinating role for conducted vasomotor responses <i>K. A. Dora, D. N. Damon, and B. R. Duling</i>	H279
P2X <sub>4</sub> receptors mediate ATP-induced calcium influx in human vascular endothelial cells <i>K. Yamamoto, R. Korenaga, A. Kamiya, Z. Qi, M. Sokabe, and J. Ando</i>	H285
Shear stress enhances human endothelial cell wound closure in vitro <i>M. L. Albuquerque, C. M. Waters, U. Savla, H. W. Schnaper, and A. S. Flozak</i>	H293
Effect of the NADPH oxidase inhibitor apocynin on ischemia-reperfusion lung injury <i>J. M. Dodd-O and D. B. Pearse</i>	H303

- Preservation of glucose metabolism in hypertrophic GLUT4-null hearts  
A. E. Stenbit, E. B. Katz, J. C. Chatham, D. L. Geenen, S. M. Factor,  
R. G. Weiss, T.-S. Tsao, A. Malhotra, V. P. Chacko, C. Ocampo, L. A. Jelicks,  
and M. J. Charron H313
- Calcium-activated potassium channels and nitric oxide coregulate  
estrogen-induced vasodilation  
C. R. Rosenfeld, R. E. White, T. Roy, and B. E. Cox H319
- Mechanism of decreased adenosine protection in reperfusion injury of aging rats  
F. Gao, T. A. Christopher, B. L. Lopez, E. Friedman, G. Cai, and X. L. Ma H329
- Role of cGMP versus 20-HETE in the vasodilator response to nitric oxide in rat  
cerebral arteries  
C.-W. Sun, J. R. Falck, H. Okamoto, D. R. Harder, and R. J. Roman H339
- Sodium-potassium-ATPase electrogenicity in cerebral precapillary arterioles  
K. Quinn, C. Guibert, and D. J. Beech H351
- Substrate-dependent proton load and recovery of stunned hearts during pyruvate  
dehydrogenase stimulation  
J. L. Griffin, L. T. White, and E. Lewandowski H361
- AGT M235T and ACE ID polymorphisms and exercise blood pressure in the  
HERITAGE Family Study  
T. Rankinen, J. Gagnon, L. Pérusse, Y. C. Chagnon, T. Rice, A. S. Leon,  
J. S. Skinner, J. H. Wilmore, D. C. Rao, and C. Bouchard H368
- Regulation of myocardial [<sup>13</sup>C]glucose metabolism in conscious rats  
P. H. McNulty, G. W. Cline, J. M. Whiting, and G. I. Shulman H375
- Retinoic acid upregulates  $\beta_1$ -integrin in vascular smooth muscle cells and alters  
adhesion to fibronectin  
M. M. Medhora H382
- Effects of cardiotrophin-1 on hemodynamics and endocrine function of the heart  
I. Hamanaka, Y. Saito, T. Nishikimi, T. Magaribuchi, S. Kamitani,  
K. Kuwahara, M. Ishikawa, Y. Miyamoto, M. Harada, E. Ogawa,  
N. Kajiyama, N. Takahashi, T. Izumi, G. Shirakami, K. Mori, Y. Inobe,  
I. Kishimoto, I. Masuda, K. Fukuda, and K. Nakao H388
- Mathematical models of action potentials in the periphery and center of the rabbit  
sinoatrial node  
H. Zhang, A. V. Holden, I. Kodama, H. Honjo, M. Lei, T. Varghese,  
and M. R. Boyett H397
- Progressive left ventricular remodeling and apoptosis late after myocardial infarction  
in mouse heart  
F. Sam, D. B. Sawyer, D. L.-F. Chang, F. R. Eberli, S. Ngoy, M. Jain,  
J. Amin, C. S. Apstein, and W. S. Colucci H422

---

## SPECIAL COMMUNICATIONS

- Culture and adenoviral infection of adult mouse cardiac myocytes: methods for  
cellular genetic physiology  
Y.-Y. Zhou, S.-Q. Wang, W.-Z. Zhu, A. Chruscinski, B. K. Kobilka, B. Ziman,  
S. Wang, E. G. Lakatta, H. Cheng, and R.-P. Xiao H429
- Construction of a very high-density extracellular electrode array  
R. A. Malkin and B. D. Pendley H437
- Estimation of parallel conductance by dual-frequency conductance catheter in mice  
D. Georgakopoulos and D. A. Kass H443

---

## RAPID COMMUNICATION

- Nitric oxide, an important regulator of perfusion-contraction matching in  
conscious pigs  
R. K. Kudej, S.-J. Kim, Y.-T. Shen, J. B. Jackson, A. B. Kudej, G.-P. Yang,  
S. P. Bishop, and S. F. Vatner H451

EDITORIAL

Impact factors and the competitive nature of journal publishing  
*D. R. Harder*

H457

Nitric oxide exerts feedback inhibition on EDHF-induced coronary arteriolar dilation in vivo

*Y. Nishikawa, D. W. Stepp, and W. M. Chilian*

H459

A comparison of transient outward currents in canine cardiac Purkinje cells and ventricular myocytes

*W. Han, Z. Wang, and S. Nattel*

H466

H<sub>2</sub>O<sub>2</sub> opens BK<sub>Ca</sub> channels via the PLA<sub>2</sub>-arachidonic acid signaling cascade in coronary artery smooth muscle

*R. S. Barlow, A. M. El-Mowafy, and R. E. White*

H475

Arteriolar wall Po<sub>2</sub> and nitric oxide release during sympathetic vasoconstriction in the rat intestine

*B. A. Sauls and M. A. Boegehold*

H484

PKC-dependent delayed metabolic preconditioning is independent of transient MAPK activation

*J. W. Mockridge, A. Punnett, D. S. Latchman, M. S. Marber, and R. J. Heads*

H492

Acute hypoxia modulates 5-HT receptor density and agonist affinity in fetal and adult ovine carotid arteries

*D. M. Angeles, J. Williams, L. Zhang, and W. J. Pearce*

H502

Estrogen reduces mouse cerebral artery tone through endothelial NOS- and cyclooxygenase-dependent mechanisms

*G. G. Geary, D. N. Krause, and S. P. Duckles*

H511

Depressed modulation of oxygen consumption by endogenous nitric oxide in cardiac muscle from diabetic dogs

*G. Zhao, X. Zhang, X. Xu, M. S. Wolin, and T. H. Hintze*

H520

Antihypertensive properties of a nitric oxide-releasing naproxen derivative in two-kidney, one-clip rats

*M. N. Muscará, W. McKnight, F. Louren, C. R. Trigg, G. Cirino, and J. L. Wallace*

H528

Hyperventilation alters arterial baroreflex control of heart rate and muscle sympathetic nerve activity

*P. Van de Borne, S. Mezzetti, N. Montano, K. Narkiewicz, J. P. Degaute, and V. K. Somers*

H536

Individualizing the aorto-radial pressure transfer function: feasibility of a model-based approach

*P. Segers, S. Carlier, A. Pasquet, S. I. Rabben, L. R. Hellevik, E. Remme, T. De Backer, J. Sutter, J. D. Thomas, and P. Verdonck*

H542

Vasomotion in critically perfused muscle protects adjacent tissues from capillary perfusion failure

*M. Rücker, O. Strobel, B. Vollmar, F. Roesken, and M. D. Menger*

H550

Effects of aging on single cardiac myocyte function in Fischer 344 x Brown Norway rats

*P. A. Wahr, D. E. Michele, and J. M. Metzger*

H559

Interleukin-1 $\beta$ , Src- and non-Src tyrosine kinases, and nitric oxide synthase induction in rat aorta in vitro

*Y. Gui, X.-L. Zheng, and M. D. Hollenberg*

H566

P<sub>i</sub> inhibits the SR Ca<sup>2+</sup> pump and stimulates pump-mediated Ca<sup>2+</sup> leak in rabbit cardiac myocytes

*G. L. Smith, A. M. Duncan, P. Neary, L. Bruce, and F. L. Burton*

H577

- Effects of forearm bier block with bretylium on the hemodynamic and metabolic responses to handgrip  
*F. Lee, J. K. Shoemaker, P. M. McQuillan, A. R. Kunselman, M. B. Smith, Q. X. Yang, H. Smith, K. Gray, and L. I. Sinoway* H586
- Doppler echo evaluation of pulmonary venous-left atrial pressure gradients: human and numerical model studies  
*M. S. Firstenberg, N. L. Greenberg, N. G. Smedira, D. L. Prior, G. M. Scalia, J. D. Thomas, and M. J. Garcia* H594
- Matrix metalloproteinases and collagen ultrastructure in moderate myocardial ischemia and reperfusion in vivo  
*L. Lu, Z. Gunja-Smith, J. F. Woessner, P. C. Ursell, T. Nissen, R. E. Galardy, Y. Xu, P. Zhu, and G. G. Schwartz* H601
- Gonadal hormones affect diameter of male rat cerebral arteries through endothelium-dependent mechanisms  
*G. G. Geary, D. N. Krause, and S. P. Duckles* H610
- CD14-independent activation of cardiomyocyte signal transduction by bacterial endotoxin  
*D. B. Cowan, D. N. Poutias, P. J. del Nido, and F. X. McGowan, Jr.* H619
- Hypotonic stress-induced dual  $\text{Ca}^{2+}$  responses in bovine aortic endothelial cells  
*M. Oike, C. Kimura, T. Koyama, M. Yoshikawa, and Y. Ito* H630
- Insulin resistance and the modulation of rat cardiac  $\text{K}^{+}$  currents  
*Y. Shimoni, D. Severson, and H. S. Ewart* H639
- Adenosine  $\text{A}_{2\text{A}}$  and  $\text{A}_{2\text{B}}$  receptors in cultured human and porcine coronary artery endothelial cells  
*H. A. Olanrewaju, W. Qin, I. Feoktistov, J.-L. Scemama, and S. Mustafa* H650
- Estimating oxygen transport resistance of the microvascular wall  
*A. Vadapalli, R. N. Pittman, and A. S. Popel* H657
- Heme oxygenase-1 is upregulated in the rat heart in response to chronic administration of angiotensin II  
*N. Ishizaka, T. Aizawa, I. Mori, J.-I. Taguchi, Y. Yazaki, R. Nagai, and M. Ohno* H672
- Ouabain augments  $\text{Ca}^{2+}$  transients in arterial smooth muscle without raising cytosolic  $\text{Na}^{+}$   
*A. Arnon, J. M. Hamlyn, and M. P. Blaustein* H679
- Inhibition by nickel of the L-type Ca channel in guinea pig ventricular myocytes and effect of internal cAMP  
*I. A. Hobai, J. C. Hancox, and A. J. Levi* H692
- Pyruvate potentiates inotropic effects of isoproterenol and  $\text{Ca}^{2+}$  in rabbit cardiac muscle preparations  
*H.-P. Hermann, O. Zeitz, B. Keweloh, G. Hasenfuss, and P. M. L. Janssen* H702
- Differences in mechanisms of SR dysfunction in ischemic vs. idiopathic dilated cardiomyopathy  
*L. Sen, G. Cui, G. C. Fonarow, and H. Laks* H709
- Phorbol ester stimulates cyclooxygenase-2 expression and prostanoid production in cardiac myocytes  
*R. Schuette and M. C. Lapointe* H719
- Does autonomic blockade reveal a potent contribution of nitric oxide to locomotion-induced vasodilation?  
*D. D. Sheriff, C. D. Nelson, and R. K. Sundermann* H726
- Phenotypic screening for heart rate variability in the mouse  
*J. Gehrman, P. E. Hammer, C. T. Maguire, H. Wakimoto, J. K. Friedman, and C. I. Berul* H733
- p38 MAP kinase pathway regulates angiotensin II-induced contraction of rat vascular smooth muscle  
*S. Meloche, J. Landry, J. Huot, F. Houle, F. Marceau, and E. Giasconi* H741



- A spontaneously active focus drives a model atrial sheet more easily than a model ventricular sheet  
*R. W. Joyner, Y.-G. Wang, R. Wilders, D. A. Golod, Mary B. Wagner, R. Kumar, and W. N. Goolsby* H752
- Niacin protects the isolated heart from ischemia-reperfusion injury  
*N. A. Trueblood, R. Ramasamy, L. F. Wang, and S. Schaefer* H764
- Exercise adaptation attenuates VEGF gene expression in human skeletal muscle  
*R. S. Richardson, H. Wagner, S. R. D. Mudaliar, E. Saucedo, R. Henry, and P. D. Wagner* H772
- Cross-bridge kinetics in rat myocardium: effect of sarcomere length and calcium activation  
*T. Wannenburg, G. H. Heijne, J. H. Geerdink, H. W. Van Den Dool, P. M. L. Janssen, and P. P. De Tombe* H779
- Role of superoxide in hemorrhagic shock-induced P-selectin expression  
*F. M. Akgür, M. F. Brown, G. B. Zibari, J. C. McDonald, C. J. Epstein, C. R. Ross, and D. N. Granger* H791
- Altered E-C coupling in rat ventricular myocytes from failing hearts 6 wk after MI  
*J. A. Wasserstrom, E. Holt, I. Sjaastad, P. K. Lunde, A. Ødegaard, and O. M. Sejersted* H798
- Presynaptic  $\beta_2$ -adrenoceptors mediate nicotine-induced NOergic neurogenic dilation in porcine basilar arteries  
*T. J. F. Lee, W. Zhang, and S. Sarwinski* H808
- Lack of hypoxic stimulation of VEGF secretion from neutrophils and platelets  
*P. Koehne, C. Willam, E. Strauss, R. Schindler, K.-U. Eckardt, and C. Bührer* H817
- Frequency modulation within electrocardiograms during ventricular fibrillation  
*A. Patwardhan, S. Moghe, K. Wang, and F. Leonelli* H825
- Glucocorticoid pretreatment protects cardiac function and induces cardiac heat shock protein 72  
*G. Valen, T. Kawakami, P. Tühepöld, A. Dumitrescu, C. Löwbeer, and J. Vaage* H836
- Role of  $ET_A$  receptors in the regulation of vascular reactivity in rats with congestive heart failure  
*E. Thorin, M. Lucas, P. Cernacek, and J. Dupuis* H844

## SPECIAL COMMUNICATIONS

- NO metabolites accumulate in erythrocytes in proportion to carbon dioxide and bicarbonate concentration  
*F. A. Recchia, T. R. Vogel, and T. H. Hintze* H852
- Determination of EETs using microbore liquid chromatography with fluorescence detection  
*K. Nithipatikom, P. F. Pratt, and W. B. Campbell* H857
- Fluorescent HPLC assay for 20-HETE and other P-450 metabolites of arachidonic acid  
*K. G. Maier, L. Henderson, J. Narayanan, M. Alonso-Galicia, J. R. Falck, and R. J. Roman* H863

## No. 3. SEPTEMBER 2000

- Nitric oxide inhibits  $Ca^{2+}$  mobilization through cADP-ribose signaling in coronary arterial smooth muscle cells  
*J.-Z. Yu, D. X. Zhang, A.-P. Zou, W. B. Campbell, and P.-L. Li* H873
- Effects of pinacidil on coronary  $Ca^{2+}$ -myosin phosphorylation in cold potassium cardioplegia model  
*N. Matsuda, K. G. Morgan, and F. W. Sellke* H882
- Aging-associated changes in whole cell  $K^+$  and L-type  $Ca^{2+}$  currents in rat ventricular myocytes  
*S. J. Liu, R. P. Wyeth, R. B. Melchert, and R. H. Kennedy* H889

SAPKs regulation of ischemic preconditioning <i>M. Sato, G. A. Cordis, N. Maulik, and D. K. Das</i>	H901
Molecular dimensions of Hb-based O <sub>2</sub> carriers determine constriction of resistance arteries and hypertension <i>H. Sakai, H. Hara, M. Yuasa, A. G. Tsai, S. Takeoka, E. Tsuchida, and M. Intaglietta</i>	H908
Evidence for involvement of the PKC- $\alpha$ isoform in myogenic contractions of the coronary microcirculation <i>C. Dessy, N. Matsuda, J. Hulvershorn, C. L. Sougnuez, F. W. Sellke, and K. G. Morgan</i>	H916
Chronic metabolic sequelae of traumatic brain injury: prolonged suppression of somatosensory activation <i>M. J. Passineau, W. Zhao, R. Busto, W. D. Dietrich, O. Alonso, J. Y. Loo, H. M. Bramlett, and M. D. Ginsberg</i>	H924
Fiber type-specific differential expression of angiogenic factors in response to chronic hindlimb ischemia <i>D. H. Cherwek, M. B. Hopkins, M. J. Thompson, B. H. Annex, and D. A. Taylor</i>	H932
A direct requirement of nuclear factor- $\kappa$ B for suppression of apoptosis in ventricular myocytes <i>S. Mustapha, A. Kirshner, D. De Moissac, and L. A. Kirshenbaum</i>	H939
TNF- $\alpha$ induced bronchial vasoconstriction <i>E. M. Wagner</i>	H946
Ca <sup>2+</sup> handling in isolated human atrial myocardium <i>L. S. Maier, P. Barckhausen, J. Weisser, I. Aleksic, M. Baryalei, and B. Pieske</i>	H952
Right and left ventricular wall deformation patterns in normal and left heart hypoplasia chick embryos <i>K. Tobita and B. B. Keller</i>	H959
Folate dependence of hyperhomocysteinemia and vascular dysfunction in cystathionine $\beta$ -synthase-deficient mice <i>S. R. Lentz, R. A. Erger, S. Dayal, N. Maeda, M. R. Malinow, D. D. Heistad, and F. M. Faraci</i>	H970
Early sequence of cardiac adaptations and growth factor formation in pressure- and volume-overload hypertrophy <i>P. A. Modesti, S. Vanni, I. Bertolozzi, I. Cecioni, G. Polidori, R. Panizza, B. Bandinelli, A. Perna, P. Liguori, M. Boddi, G. Galanti, and G. G. Neri Serneri</i>	H976
Preservation of myocardial function after adenoviral gene transfer in isolated myocardium <i>S. E. Lehnart, P. M. L. Janssen, W. M. Franz, J. K. Donahue, J. H. Lawrence, E. Marbán, J. Prestle, and G. Hasenfuss</i>	H986
Effect of hydrogen peroxide on the membrane currents of sinoatrial node cells from rabbit heart <i>J. Guo, W. R. Giles, and C. A. Ward</i>	H992
Effects of adrenomedullin on load and myocardial performance in normal and heart-failure dogs <i>J. G. Lainchbury, D. M. Meyer, M. Jougasaki, J. C. Burnett Jr., and M. M. Redfield</i>	H1000
Venous emptying mediates a transient vasodilation in the human forearm <i>M. E. Tschakovsky and R. L. Hughson</i>	H1007
The female reproductive cycle is an important variable in the response to trauma-hemorrhage <i>D. Jarrar, P. Wang, W. G. Cioffi, K. I. Bland, and I. H. Chaudry</i>	H1015
Comparison of blood-brain barrier permeability in mice and rats using in situ brain perfusion technique <i>H. Murakami, H. Takanaga, H. Matsuo, H. Ohtani, and Y. Sawada</i>	H1022
Heterogeneity of local myocardial flow and oxidative metabolism <i>U. Schwanke, A. Deussen, G. Heusch, and J. D. Schipke</i>	H1029

- High-calcium diet enhances vasorelaxation in nitric oxide-deficient hypertension  
*P. Jolma, J. Kalliovalkama, J.-P. Tolvanen, P. Kööbi, M. Kähönen, N. Hutri-Kähönen, X. Wu, and I. Pörsti* H1036
- In vivo mechanisms of acetylcholine-induced vasodilation in rat sciatic nerve  
*K. Thomsen, I. Rubin, and M. Lauritzen* H1044
- Virtual electrode polarization in the far field: implications for external defibrillation  
*I. R. Efimov, F. Aguel, Y. Cheng, B. Wollenzier, and N. Trayanova* H1055
- Transgenic overexpression of cardiac A<sub>1</sub> adenosine receptors mimics ischemic preconditioning  
*R. R. Morrison, R. Jones, A. M. Byford, A. R. Stell, J. Peart, J. P. Headrick, and G. P. Matherne* H1071
- Adverse effects of constitutively active  $\alpha_{1B}$ -adrenergic receptors after pressure overload in mouse hearts  
*B. H. Wang, X.-J. Du, D. J. Autelitano, C. A. Milano, and E. A. Woodcock* H1079
- Coronary microvascular endothelial cells cosecrete angiotensin II and endothelin-1 via a regulated pathway  
*Y. Kusaka, R. A. Kelly, G. H. Williams, and I. Kifor* H1087
- Development of vasomotor responses in fetal mesenteric arteries  
*E. V. Rouwet, J. G. R. De Mey, D. W. Slaaf, E. Heineman, G. Ramsay, and F. A. C. Le Noble* H1097
- Less afterload sensitivity in short-term hibernating than in acutely ischemic and stunned myocardium  
*R. Schulz, J. Rose, H. Post, A. Skyschally, and G. Heusch* H1106
- Inconsistent relation of MAPK activation to infarct size reduction by ischemic preconditioning in pigs  
*M. Behrends, R. Schulz, H. Post, A. Alexandrov, S. Belosjorow, M. C. Michel, and G. Heusch* H1111
- Left ventricular wall stress normalization in chronic pressure-overloaded heart: a mathematical model study  
*P. Segers, N. Stergiopoulos, J. J. Schreuder, B. E. Westerhof, and N. Westerhof* H1120
- Metabolic evidence for sequestration of low-density lipoprotein in abdominal aorta of normal rabbits  
*D. C. Schwenke* H1128
- Increase in peripheral blood flow due to extraocular direct irradiation of visible light in rats  
*K. Kobayashi, Y. Kobayashi, A. Hashida-Okumura, S. Iimori, K. Nagai, and H. Nakashima* H1141
- Active and passive liver microvascular responses from angiotensin, endothelin, norepinephrine, and vasopressin  
*C. F. Rothe and R. Maass-Moreno* H1147
- Preconditioning reduces myocardial complement gene expression in vivo  
*E. J. Tanhehco, K. Yasojima, P. L. McGeer, E. G. McGeer, and B. R. Lucchesi* H1157
- Effect of NO, phenylephrine, and hypoxemia on ductus venosus diameter in fetal sheep  
*T. Kiserud, T. Ozaki, H. Nishina, C. Rodeck, and M. A. Hanson* H1166
- Insulin resistance and endothelial dysfunction in smokers: effects of vitamin C  
*N. Hirai, H. Kawano, O. Hirashima, T. Motoyama, Y. Moriyama, T. Sakamoto, K. Kugiyama, H. Ogawa, K. Nakao, and H. Yasue* H1172
- Altered cardiac Na<sup>+</sup>/H<sup>+</sup> exchange in phospholipase D-treated sarcolemmal vesicles  
*D. P. Goel, A. Vecchini, V. Panagia, and G. N. Pierce* H1179
- H<sub>2</sub>O<sub>2</sub> mediates Ca<sup>2+</sup>- and MLC<sub>20</sub> phosphorylation-independent contraction in intact and permeabilized vascular muscle  
*N. J. Pelaez, T. R. Braun, R. J. Paul, R. A. Meiss, and C. S. Packer* H1185



- MAPK and PKC activity are not required for H<sub>2</sub>O<sub>2</sub>-induced arterial muscle contraction  
*N. J. Pelaez, S. L. Osterhaus, A. S. Mak, Y. Zhao, H. W. Davis, and C. S. Packer* H1194
- Inotropic, chronotropic, and dromotropic effects mediated via parasympathetic ganglia in the dog heart  
*M. Tsuboi, Y. Furukawa, K. Nakajima, F. Kurogouchi, and S. Chiba* H1201
- Effects of estrogen on cerebral blood flow and pial microvasculature in rabbits  
*M. T. Littleton-Kearney, D. M. Agnew, R. J. Traystman, and P. D. Hurn* H1208
- Dissociation of muscle sympathetic nerve activity and leg vascular resistance in humans  
*J. K. Shoemaker, M. D. Herr, and L. I. Sinoway* H1215
- Amlodipine inhibits thapsigargin-sensitive Ca<sup>2+</sup> stores in thrombin-stimulated vascular smooth muscle cells  
*O. Stepien and P. Marche* H1220
- Involvement of protein kinase C, tyrosine kinases, and Rho kinase in Ca<sup>2+</sup> handling of human small arteries  
*M. C. Martinez, V. Randriamboavonjy, P. Ohlmann, N. Komaz, J. Duarte, F. Schneider, J.-C. Stoclet, and R. Andriantsitohaina* H1228
- Inhibition of baroreflex vagal bradycardia by activation of the rostral ventrolateral medulla in rats  
*S. Nosaka, K. Murata, M. Kobayashi, Z. B. Cheng, and J. Maruyama* H1239
- Influence of heart rate and sympathetic stimulation on arrhythmogenic T wave alternans  
*E. S. Kaufman, J. A. Mackall, B. Julka, C. Drabek, and D. S. Rosenbaum* H1248
- Role of ductus venosus in distribution of umbilical blood flow in human fetuses during second half of pregnancy  
*M. Bellotti, G. Pennati, C. De Gasperi, F. C. Battaglia, and E. Ferrazzi* H1256
- Efficiency of energy transfer, but not external work, is maximized in stunned myocardium  
*S. A. I. P. Trines, C. J. Slager, J. van der Moer, P. D. Verdouw, and R. Krams* H1264
- Effects of hypoxia on pulmonary microvascular volume  
*A. V. Clough, S. T. Haworth, W. Ma, and C. A. Dawson* H1274
- Selegiline improves cardiac sympathetic terminal function and  $\beta$ -adrenergic responsiveness in heart failure  
*J. Shite, E. Dong, H. Kawai, S. Y. Stevens, and C.-S. Liang* H1283
- New optical method for analyzing cortical blood flow heterogeneity in small animals: validation of the method  
*I. Schisler, M. Tomita, Y. Fukuchi, N. Tanahashi, and K. Inoue* H1291
- Renal SNA as the primary mediator of slow oscillations in blood pressure during hemorrhage  
*S. C. Malpas and D. E. Burgess* H1299
- Dilated cardiomyopathy in transgenic mice expressing a mutant A subunit of protein phosphatase 2A  
*N. Brewis, K. Ohst, K. Fields, A. Rapacciuolo, D. Chou, C. Bloor, W. Dillmann, H. Rockman, and G. Walter* H1307
- Liposome-induced pulmonary hypertension: properties and mechanism of a complement-mediated pseudoallergic reaction  
*J. Szebeni, L. Baranyi, S. Savay, M. Bodo, D. S. Morse, M. Basta, G. L. Stahl, R. B nger, and C. R. Alving* H1319
- Conditioning of  $\beta_1$ -adrenoceptor effect via  $\beta_2$ -subtype on L-type Ca<sup>2+</sup> current in canine ventricular myocytes  
*Z. Nagykalai, D. Kem, R. Lazzara, and B. Szabo* H1329
- Thrombin and leukocyte recruitment in endotoxemia  
*R. C. Woodman, D. Teoh, D. Payne, and P. Kubes* H1338
- Acute upregulation of blood-brain barrier glucose transporter activity in seizures  
*E. M. Cornford, E. V. Nguyen, and E. M. Landau* H1346

- Myosin light chain replacement in the heart  
A. Sanbe, J. Gulick, E. Hayes, D. Warsaw, H. Osinska, C.-B. Chan,  
R. Klevitsky, and J. Robbins H1355
- Myocyte cytoskeletal disorganization and right heart failure in hypoxia-induced  
neonatal pulmonary hypertension  
M. S. Lemler, R. D. Bies, M. G. Frid, A. Sastravaha, L. S. Zisman,  
T. Bohlmeyer, A. M. Gerdes, J. T. Reeves, and K. R. Stenmark H1365
- Lowering of interstitial fluid pressure after neurogenic inflammation is inhibited  
by mystixin-7 peptide  
E.-A. B. Gjerde, K. Woie, E. T. Wei, and R. K. Reed H1377
- Polyamines decrease  $Ca^{2+}$  sensitivity of tension and increase rates of activation in  
skinned cardiac myocytes  
S. P. Harris, J. R. Patel, L. J. Marton, and R. L. Moss H1383
- Transmyocardial revascularization aggravates myocardial ischemia around the  
channels in the immediate phase  
N. Hattan, K. Ban, E. Tanaka, S. Abe, T. Sekka, Y. Sugio,  
M. U. Mohammed, E. Sato, Y. Shinozai, Y. Onishi, H. Suma, S. Handa,  
S. Kawada, S. Hori, A. Iida, H. Nakazawa, and H. Mori H1392
- Selective transport of adenosine into porcine coronary smooth muscle  
L. J. Rubin, L. R. Johnson, J. R. Dodam, A. K. Dhalla, L. Magliola,  
M. H. Laughlin, and A. W. Jones H1397

# **SPECIAL COMMUNICATIONS**

- Development of a multifrequency conductance catheter-based system to determine  
LV function in mice  
M. D. Feldman, Y. Mao, J. W. Valvano, J. A. Pearce, and G. L. Freeman H1411
- Ratiometry of transmembrane voltage-sensitive fluorescent dye emission in hearts  
S. B. Knisley, R. K. Justice, W. Kong, and P. L. Johnson H1421
- Intact endothelial and smooth muscle function in small resistance arteries after 48 h  
in vessel culture  
S.-S. Bolz, S. Pieperhoff, C. De Wit, and U. Pohl H1434

## **No. 4. OCTOBER 2000**

- Effects of chronic exercise on calcium signaling in rat vascular endothelium  
T.-F. Chu, T.-Y. Huang, C. J. Jen, and H.-I. Chen H1441
- Aldose reductase inhibition alone or combined with an adenosine  $A_3$  agonist reduces  
ischemic myocardial injury  
W. R. Tracey, W. P. Magee, C. A. Ellery, J. T. MacAndrew, A. H. Smith,  
D. R. Knight, and P. J. Oates H1447
- C-peptide exerts cardioprotective effects in myocardial ischemia-reperfusion  
L. H. Young, Y. Ikeda, R. Scalia, and A. M. Lefer H1453
- Influence of erythrocyte aggregation on leukocyte margination in postcapillary  
venules of rat mesentery  
M. J. Pearson and H. H. Lipowsky H1460
- Adenosine  $A_{2a}$ -receptor activation increases contractility in isolated perfused hearts  
T. S. Monahan, D. R. Sawmiller, R. A. Fenton, and J. G. Dobson, Jr. H1472
- cADP ribose and  $[Ca^{2+}]_i$  regulation in rat cardiac myocytes  
Y. S. Prakash, M. S. Kannan, T. F. Walseth, and G. C. Sieck H1482
- Improved energy homeostasis of the heart in the metabolic state of exercise  
G. W. Goodwin and H. Taegtmeyer H1490
- Endothelial adenosine transporter characterization in perfused guinea pig hearts  
L. M. Schwartz, T. R. Bukowski, J. D. Ploger, and J. B. Bassingthwaighe H1502
- Mechanisms of endothelial cell swelling from lactacidosis studied in vitro  
S. Behmanesh and O. Kempski H1512

- Transarterial wall oxygen gradients at the deployment site of an intra-arterial stent in the rabbit  
S. M. Santilli, A. S. Tretinyak, and E. S. Lee H1518
- Hypoxic pulmonary vasoconstriction is modified by P-450 metabolites  
D. Zhu, E. K. Birks, C. A. Dawson, M. Patel, J. R. Falck, K. Presberg, R. J. Roman, and E. R. Jacobs H1526
- Alterations in myocardial collagen content affect rat papillary muscle function  
L. S. Matsubara, B. B. Matsubara, M. P. Okoshi, A. C. Cicogna, and J. S. Janicki H1534
- Matrix metalloproteinase activity is required for activity-induced angiogenesis in rat skeletal muscle  
T. L. Haas, M. Milkiewicz, S. J. Davis, A. L. Zhou, S. Egginton, M. D. Brown, J. A. Madri, and O. Hudlicka H1540
- Orthostatic hypotension in aging humans  
X. Shi, D. W. Wray, K. J. Formes, H.-W. Wang, P. M. Hayes, A. H. O-Yurvati, M. S. Weiss, and I. P. Reese H1548
- IL-10 deficiency increases superoxide and endothelial dysfunction during inflammation  
C. A. Gunnnett, D. D. Heistad, D. J. Berg, and F. M. Faraci H1555
- Na<sup>+</sup>/H<sup>+</sup> exchange inhibition-induced cardioprotection in dogs: effects on neutrophils versus cardiomyocytes  
R. J. Gumina, J. Auchampach, R. Wang, E. Buerger, C. Eickmeier, J. Moore, J. Daemmgen, and G. J. Gross H1563
- Three-week neonatal hypoxia reduces blood CGRP and causes persistent pulmonary hypertension in rats  
I. M. Keith, S. Tjen-A-Looi, H. Kraiczi, and R. Ekman H1571
- Virtual sources associated with linear and curved strands of cardiac cells  
L. Tung and A. G. Kléber H1579
- Skin microvascular adaptations during maturation and aging of hairless mice  
B. Vollmar, M. Morgenthaler, M. Amon, and M. D. Menger H1591
- Effect of hypercholesterolemia on Ca<sup>2+</sup>-dependent K<sup>+</sup> channel-mediated vasodilatation in vivo  
R. W. Jeremy and H. McCarron H1600
- K<sub>ATP</sub> channel activation reduces the severity of postresuscitation myocardial dysfunction  
W. Tang, M. H. Weil, S. Sun, A. Pernat, and E. Mason H1609
- P-450 epoxigenase and NO synthase inhibitors reduce cerebral blood flow response to N-methyl-D-aspartate  
A. Bhardwaj, F. J. Northington, J. R. Carhuapoma, J. R. Falck, D. R. Harder, R. J. Traystman, and R. C. Koehler H1616
- VEGF and ATP act by different mechanisms to increase microvascular permeability and endothelial [Ca<sup>2+</sup>]<sub>i</sub>  
T. M. Pocock, B. Williams, F. E. Curry, and D. O. Bates H1625
- Significance of ERK cascade compared with JAK/STAT and PI3-K pathway in gp130-mediated cardiac hypertrophy  
H. Kodama, K. Fukuda, J. Pan, M. Sano, T. Takahashi, T. Kato, S. Makino, T. Manabe, M. Murata, and S. Ogawa H1635
- Model of structural and functional adaptation of small conductance vessels to arterial hypotension  
C. M. Quick, W. L. Young, E. F. Leonard, S. Joshi, E. Gao, and T. Hashimoto H1645
- Mechanisms of calcitonin gene-related peptide-induced increases of pulmonary blood flow in fetal sheep  
Y. Takahashi, M. de Vroomen, C. Roman, and M. A. Heymann H1654
- Role of protein kinase C in  $\alpha_1$ -adrenergic regulation of a<sub>Na</sub><sup>i</sup> in guinea pig ventricular myocytes  
S.-H. Jo, C.-H. Cho, S. Wan Chae, and C. O. Lee H1661

- Nonlinear dynamics of heart rate variability during experimental hemorrhage in ketamine-anesthetized rats  
*J. E. Skinner, B. A. Nester, and W. C. Dalsey* H1669
- PKC $\epsilon$  modulates NF- $\kappa$ B and AP-1 via mitogen-activated protein kinases in adult rabbit cardiomyocytes  
*R. C. X. Li, P. Ping, J. Zhang, W. B. Wead, X. Cao, J. Gao, Y. Zheng, S. Huang, J. Han, and R. Bolli* H1679
- Cardioprotection by K<sub>ATP</sub> channels in wild-type hearts and hearts overexpressing A<sub>1</sub>-adenosine receptors  
*J. P. Headrick, N. S. Gauthier, R. Morrison, and G. P. Matherne* H1690
- Validation of a mouse conductance system to determine LV volume: comparison to echocardiography and crystals  
*M. D. Feldman, J. M. Erikson, Y. Mao, C. E. Korcarz, R. M. Lang, and G. L. Freeman* H1698
- Reduced contractile response to insulin and IGF-I in ventricular myocytes from genetically obese Zucker rats  
*J. Ren, J. R. Sowers, M. F. Walsh, and R. A. Brown* H1708
- Time course of vasodilatory responses in skeletal muscle arterioles: role in hyperemia at onset of exercise  
*S. A. Wunsch, J. Muller-Delp, and M. D. Delp* H1715
- Starling forces that oppose filtration after tissue oncotic pressure is increased  
*X. Hu, R. H. Adamson, B. Liu, F. E. Curry, and S. Weinbaum* H1724
- Endocardial activation during ventricular fibrillation in normal and failing canine hearts  
*G. L. Pierpont, S. S. Chugh, J. A. Hauck, and C. C. Gornick* H1737
- Novel characteristics of a misprocessed mutant HERG channel linked to hereditary long QT syndrome  
*E. Ficker, D. Thomas, P. C. Viswanathan, A. T. Dennis, S. G. Priori, C. Napolitano, M. Memmi, B. A. Wible, E. S. Kaufman, S. Iyengar, P. J. Schwartz, Y. Rudy, and A. M. Brown* H1748
- Upregulation of neuronal nitric oxide synthase in skeletal muscle by swim training  
*R. Tatchum-Talom, R. Schulz, J. R. McNeill, and F. H. Khadour* H1757
- Mathematical analysis of canine atrial action potentials: rate, regional factors, and electrical remodeling  
*R. J. Ramirez, S. Nattel, and M. Courtemanche* H1767
- Alterations of endothelium and smooth muscle function in monocrotaline-induced pulmonary hypertensive arteries  
*K. M. Ito, M. Sato, K. Ushijima, M. Nakai, and K. Ito* H1786
- Methods for assessing hepatic distending pressure and changes in hepatic capacitance in pigs  
*H. Kjekshus, C. Risoe, T. Scholz, and O. A. Smiseth* H1796
- Angiotensin II acutely attenuates range of arterial baroreflex control of renal sympathetic nerve activity  
*M. G. Sanderford and V. S. Bishop* H1804
- Effects of mammary engorgement and feed withdrawal on microvascular function in lactating goat mammary glands  
*V. C. Farr, C. G. Prosser, and S. R. Davis* H1813
- Role of pertussis toxin-sensitive G protein in metabolic vasodilation of coronary microcirculation  
*T. Tanikawa, H. Kanatsuka, R. Koshida, M. Tanaka, A. Sugimura, T. Kumagai, M. Miura, T. Komaru, and K. Shirato* H1819
- Relationship of molecular structure to the mechanism of lysophospholipid-induced smooth muscle cell proliferation  
*Y.-C. Chai, D. G. Binion, and G. M. Chisolm* H1830
- 2,3-Butanedione monoxime unmasks Ca<sup>2+</sup>-induced NADH formation and inhibits electron transport in rat hearts  
*R. C. Scaduto, Jr. and L. W. Grotyohann* H1839

- Mitochondrial NAD(P)H, ADP, oxidative phosphorylation, and contraction in isolated heart cells  
R. L. White and B. A. Wittenberg H1849
- Flumazenil preconditions cardiomyocytes via oxygen radicals and  $K_{ATP}$  channels  
Q. Zhang and Z. Yao H1858
- Protein washdown as a defense mechanism against myocardial edema  
R. H. Stewart, H. J. Geissler, S. J. Allen, and G. A. Laine H1864
- Dynamics of action potential head-tail interaction during reentry in cardiac tissue: ionic mechanisms  
T. J. Hund, N. F. Otani, and Y. Rudy H1869
- Interactions of hemoglobin with hydrogen peroxide alters thiol levels and course of endothelial cell death  
F. D'Agnillo and A. I. Alayash H1880
- Prior exercise training increases collateral-dependent blood flow in rats after acute femoral artery occlusion  
H. T. Yang, M. H. Laughlin, and R. L. Terjung H1890
- Effect of milrinone on left ventricular relaxation and  $Ca^{2+}$  uptake function of cardiac sarcoplasmic reticulum  
M. Yano, M. Kohno, T. Ohkusa, M. Mochizuki, J. Yamada, M. Kohno, T. Hisaoka, K. Ono, T. Tanigawa, S. Kobayashi, and M. Matsuzaki H1898
- Vasodilator mechanisms in the coronary circulation of endothelial nitric oxide synthase-deficient mice  
K. G. Lamping, D. W. Nuno, E. G. Shesely, N. Maeda, and F. M. Faraci H1906
- Time and dose effect of transdermal nicotine on endothelial function  
V. M. Miller, W. D. Clouse, B. H. Tonnessen, U. S. Boston, S. R. Severson, S. Bonde, K. S. Rud, and R. D. Hurt H1913
- Diaspirin cross-linked Hb and norepinephrine prevent the sepsis-induced increase in critical  $O_2$  delivery  
A. W. Sielenkämper, P. Yu, O. Eichelbrönnner, T. MacDonald, C. M. Martin, I. H. Chin-Yee, and W. J. Sibbald H1922
- Cardiovascular and neuroendocrine responses to water immersion in compensated heart failure  
A. Gabrielsen, V. B. Sørensen, B. Pump, S. Galatius, R. Videbæk, P. Bie, J. Warberg, N. J. Christensen, H. Wroblewski, J. Kastrup, and P. Norsk H1931
- Cardioprotection with  $\kappa$ -opioid receptor stimulation is associated with a slowing of cross-bridge cycling  
W. G. Pyle, T. D. Smith, and P. A. Hofmann H1941
- Plasma viscosity and cerebral blood flow  
Y. Tomiyama, J. E. Brian, Jr., and M. M. Todd H1949
- Carotid baroreflex responsiveness in heat-stressed humans  
C. G. Crandall H1955
- Biphasic effects of hyposmotic challenge on excitation-contraction coupling in rat ventricular myocytes  
F. Brette, S. C. Calaghan, S. Lappin, E. White, J. Colyer, and J.-Y. Le Guennec H1963
- $Na^+ - K^+ - ATPase$   $\alpha_2$ -isoform expression in guinea pig hearts during transition from compensation to decompensation  
P. Trouve, F. Carre, I. Belikova, C. Leclercq, T. Dakhli, L. Soufir, I. Coquard, J. Ramirez-Gil, and D. Charlemagne H1972
- cGMP-independent inotropic effects of nitric oxide and peroxynitrite donors: potential role for nitrosylation  
N. Paolucci, U. E. G. Ekelund, T. Isoda, M. Ozaki, K. Vandegaer, D. Georgakopoulos, R. W. Harrison, D. A. Kass, and J. M. Hare H1982
- Cardiac synthesis, processing, and coronary release of enkephalin-related peptides  
A. Younès, S. Pepe, B. A. Barron, H. A. Spurgeon, E. G. Lakatta, and J. L. Caffrey H1989



- Effect of aerobic and resistance exercise training on vascular function in heart failure  
A. Maiorana, G. O'Driscoll, L. Dembo, C. Cheetham, C. Goodman, R. Taylor, and D. Green H1999
- Evidence for nitroxidergic innervation in monkey ophthalmic arteries in vivo and in vitro  
K. Ayajiki, T. Tanaka, T. Okamura, and N. Toda H2006

---

## SPECIAL COMMUNICATION

- Echocardiographic and invasive measurements of pulmonary artery pressure correlate closely at high altitude  
Y. Allemann, C. Sartori, M. Lepori, S. Pierre, C. Mélot, R. Naeije, U. Scherrer, and M. Maggiorini H2013

---

## RAPID COMMUNICATIONS

- Differential effects of L-NAME on rat venular hydraulic conductivity  
R. E. Rumbaut, J. Wang, and V. H. Huxley H2017
- Voltage-independent changes in L-type  $Ca^{2+}$  current uncoupled from SR  $Ca^{2+}$  release in cardiac myocytes  
A. M. Janczewski, E. G. Lakatta, and M. D. Stern H2024

## No. 5. NOVEMBER 2000

- Vascular endothelial growth factor is modulated in vascular muscle cells by estradiol, tamoxifen, and hypoxia  
P. Bausero, M.-H. Ben-Mahdi, J.-P. Mazucatelli, C. Bloy, and M. Perrot-Applanat H2033
- High spatial resolution measurements of organ blood flow in small laboratory animals  
S. L. Bernard, J. R. Ewen, C. H. Barlow, J. J. Kelly, S. McKinney, D. A. Frazer, and R. W. Glenny H2043
- Endotoxin infusion in rats induces apoptotic and survival pathways in hearts  
T. E. McDonald, M. N. Grinman, C. M. Carthy, and K. R. Walley H2053
- Genetic mapping of quantitative trait loci influencing left ventricular mass in rats  
Y. Tsujita, N. Iwai, S. Tamaki, Y. Nakamura, M. Nishimura, and M. Kinoshita H2062
- SOD-1 expression in pig coronary arterioles is increased by exercise training  
J. W. E. Rush, M. H. Laughlin, C. R. Woodman, and E. M. Price H2068
- Effect of time and vascular pressure on permeability and cyclic nucleotides in ischemic lungs  
D. B. Pearce and P. M. Becker H2077
- Increased medial smooth muscle cell length is responsible for vascular hypertrophy in young hypertensive rats  
J. G. Dickhout and R. M. K. W. Lee H2085
- Fast pacing facilitates discontinuous action potential propagation between rabbit atrial cells  
Y.-G. Wang, M. B. Wagner, R. Kumar, W. N. Goolsby, and R. W. Joyner H2095
- Regulation of a voltage-sensitive release mechanism by  $Ca^{2+}$ -calmodulin-dependent kinase in cardiac myocytes  
J. Zhu and G. R. Ferrier H2104
- Inhibition of adenosine kinase induces expression of VEGF mRNA and protein in myocardial myoblasts  
J.-W. Gu, B. R. Ito, A. Sartin, N. Frascogna, M. Moore, and T. H. Adair H2116
- A metabolic role for mitochondria in palmitate-induced cardiac myocyte apoptosis  
G. C. Sparagna, D. L. Hickson-Bick, L. M. Buja, and J. B. McMillin H2124

Phenotypical features of long Q-T syndrome in transgenic mice expressing human Na-K-ATPase $\alpha_3$ -isoform in hearts <i>S. E. O'Brien, M. Apkon, C. I. Berul, H. T. Patel, K. Saupe, M. Spindler, J. S. Ingwall, and R. Zahler</i>	H2133
Inhibition of NHE protects reoxygenated cardiomyocytes independently of anoxic $Ca^{2+}$ overload and acidosis <i>C. Schäfer, Y. V. Ladilov, M. Schäfer, and H. M. Piper</i>	H2143
Conservation of phosphorylation state of cardiac phosphofructokinase during in vitro hypothermic hypoxia <i>R. P. Pulis, B. M. Wu, N. M. Kneteman, and T. A. Churchill</i>	H2151
Autocrine thrombospondin partially mediates TGF- $\beta$ 1- induced proliferation of vascular smooth muscle cells <i>M. Sajid, M. Lele, and G. A. Stouffer</i>	H2159
Intrinsic $A_1$ adenosine receptor activation during ischemia or reperfusion improves recovery in mouse hearts <i>J. Peart and J. P. Headrick</i>	H2166
Oxidative stress impairs cardiac chemoreflexes in diabetic rats <i>E. E. Ustinova, C. J. Barrett, S.-Y. Sun, and H. D. Schultz</i>	H2176
NOC/oFQ contributes to age-dependent impairment of NMDA-induced cerebrovasodilation after brain injury <i>W. M. Armstead</i>	H2188
Leukocyte and endothelial cell adhesion molecules in a chronic murine model of myocardial reperfusion injury <i>S. P. Jones, S. D. Trocha, M. B. Strange, D. N. Granger, C. G. Kevil, D. C. Bullard, and D. J. Lefer</i>	H2196
Oxygen dependency and precision of cytochrome oxidase signal from full spectral NIRS of the piglet brain <i>R. Springett, J. Newman, M. Cope, and D. T. Delpy</i>	H2202
Mechanism of adenosine-induced vasodilation in rat diaphragm microcirculation <i>C.-W. Chen, H.-Y. Chang, and T.-R. Hsiue</i>	H2210
MRI/MRS assessment of in vivo murine cardiac metabolism, morphology, and function at physiological heart rates <i>V. P. Chacko, F. Aresta, S. M. Chacko, and R. G. Weiss</i>	H2218
Molecular distribution of volume-regulated chloride channels (ClC-2 and ClC-3) in cardiac tissues <i>F. C. Britton, W. J. Hatton, C. F. Rossow, D. Duan, J. R. Hume, and B. Horowitz</i>	H2225
Upregulation of p67 <sup>phox</sup> and gp91 <sup>phox</sup> in aortas from angiotensin II-infused mice <i>M. E. Cifuentes, F. E. Rey, O. A. Carretero, and P. J. Pagano</i>	H2234
Expression and self-regulatory function of cardiac interleukin-6 during endotoxemia <i>H. Saito, C. Patterson, Z. Hu, M. S. Runge, U. Tipnis, M. Sinha, and J. Papaconstantinou</i>	H2241
Dependence of intestinal arteriolar regulation on flow-mediated nitric oxide formation <i>H. G. Bohlen and G. P. Nase</i>	H2249
Characterization of nifedipine-resistant calcium current in neonatal rat ventricular cardiomyocytes <i>C. Pignier and D. Potreau</i>	H2259
Tyrosine kinase signaling in action potential shortening and expression of HSP72 in late preconditioning <i>S. Okubo, N. L. Bernardo, G. T. Elliott, M. L. Hess, and R. C. Kukreja</i>	H2269
Acute effects of 17 $\beta$ -estradiol on ventricular and vascular hemodynamics in postmenopausal women <i>C. S. Hayward, W. V. Kalnins, and R. P. Kelly</i>	H2277
Local and remote arteriolar dilations initiated by skeletal muscle contraction <i>C. L. Murrant and I. H. Sarelius</i>	H2285
Microvascular flow and tissue $PO_2$ in skeletal muscle of chronic reduced renal mass hypertensive rats <i>J. H. Lombard, J. C. Frisbee, A. S. Greene, A. G. Hudetz, R. J. Roman, and P. J. Tonellato</i>	H2295

- Na<sup>+</sup> current contribution to the diastolic depolarization in newborn rabbit SA node cells  
*M. Baruscotti, D. DiFrancesco, and R. B. Robinson* H2303
- Hypoxia-induced alterations in Ca<sup>2+</sup> mobilization in brain microvascular endothelial cells  
*C. Kimura, M. Oike, and Y. Ito* H2310
- Effect of sildenafil on coronary active and reactive hyperemia  
*Y. Chen, R. Du, J. H. Traverse, and R. J. Bache* H2319
- Hemodynamic changes in apolipoprotein E-knockout mice  
*C. J. Hartley, A. K. Reddy, S. Madala, B. Martin-McNulty, R. Vergona, M. E. Sullivan, M. Halks-Miller, G. E. Taffet, L. H. Michael, M. L. Entman, and Y.-X. Wang* H2326
- Changes in venous return parameters associated with univentricular Fontan circulations  
*L. Macé, P. Dervanian, A. Bourriez, G. M. Mazmanian, V. Lambert, J. Losay, and J.-Y. Neveux* H2335
- Impact of acute hypoxia on heart rate and blood pressure variability in conscious dogs  
*F. Yasuma and J.-I. Hayano* H2344
- Differential role of K<sub>ATP</sub> channels in late preconditioning against myocardial stunning and infarction in rabbits  
*H. Takano, X.-L. Tang, and R. Bolli* H2350
- Biphasic response of cardiac NO synthase isoforms to ischemic preconditioning in conscious rabbits  
*Y.-T. Xuan, X.-L. Tang, Y. Qiu, S. Banerjee, H. Takano, H. Han, and R. Bolli* H2360
- Late preconditioning enhances recovery of myocardial function after infarction in conscious rabbits  
*H. Takano, X.-L. Tang, E. Kodani, and R. Bolli* H2372
- Nitric oxide-dependent pulmonary vasodilation in polycythemic rats  
*B. R. Walker, T. C. Resta, and L. D. Nelin* H2382
- Partitioning of pyruvate between oxidation and anaplerosis in swine hearts  
*A. R. Panchal, B. Comte, H. Huang, T. Kerwin, A. Darvish, C. Des Rosiers, H. Brunengraber, and W. C. Stanley* H2390
- Interaction of the vestibular system and baroreflexes on sympathetic nerve activity in humans  
*C. A. Ray* H2399
- Effects of hemoglobin on heme oxygenase gene expression and viability of cultured smooth muscle cells  
*L. S. Marton, X. Wang, A. Kowalczyk, Z.-D. Zhang, E. Windmeyer, and R. Loch Macdonald* H2405
- Altered hemodynamics in transgenic mice harboring mutant tropomyosin linked to hypertrophic cardiomyopathy  
*C. C. Evans, J. R. Pena, R. M. Phillips, M. Muthuchamy, D. F. Wiczorek, R. J. Solaro, and B. M. Wolska* H2414
- Bicarbonate exacerbates oxidative injury induced by antitumor antibiotic doxorubicin in cardiomyocytes  
*E. A. Konorev, H. Zhang, J. Joseph, M. C. Kennedy, and B. Kalyanaraman* H2424
- Antioxidant pyruvate inhibits cardiac formation of reactive oxygen species through changes in redox state  
*E. Bassenge, O. Sommer, M. Schwemmer, and R. Bünger* H2431
- Cerebral hemodynamics during arterial and CO<sub>2</sub> pressure changes: in vivo prediction by a mathematical model  
*M. Ursino, A. Ter Minassian, C. A. Lodi, and L. Beydon* H2439
- Preserved ventricular contractility in infarcted mouse heart overexpressing  $\beta_2$ -adrenergic receptors  
*X.-J. Du, X.-M. Gao, G. L. Jennings, A. M. Dart, and E. A. Woodcock* H2456

- Normal values of regional left ventricular endocardial motion: multicenter color kinesis study  
*V. Mor-Avi, K. Spencer, J. Gorcsan, A. Demaria, T. Kimball, M. Monaghan, J. Perez, J. P. Sun, L. Weinert, J. Bednarz, K. Collins, K. Edelman, O. L. Kwan, B. Glascock, J. Hancock, C. Baumann, J. Thomas, and R. Lang* H2464
- Cyclic strain modulates resistance to oxidant stress by increasing G6PDH expression in smooth muscle cells  
*J. A. Leopold and J. Loscalzo* H2477
- Effects of whole body heating on dynamic baroreflex regulation of heart rate in humans  
*C. G. Crandall, R. Zhang, and B. D. Levine* H2486
- Effects of microtubule disruption on force, velocity, stiffness, and  $[Ca^{2+}]_i$  in porcine coronary arteries  
*R. J. Paul, P. S. Bowman, and M. S. Kolodney* H2493
- Altered  $\beta$ -adrenergic signal transduction in nonfailing hypertrophied myocytes from Dahl salt-sensitive rats  
*K. Nagata, C. Communal, C. C. Lim, M. Jain, T. M. Suter, F. R. Eberli, N. Satoh, W. S. Colucci, C. S. Apstein, and R. Liao* H2502
- NO is involved in MCh-induced accentuated antagonism via type II PDE in the canine blood-perfused SA node  
*S. Sasaki, K. Daitoku, A. Iwasa, and S. Motomura* H2509
- Active and passive stresses in the myocardium  
*R. M. Shoucri* H2519
- Mediators of the mitogenic action of human  $V_1$  vascular vasopressin receptors  
*M. Thibonnier, D. M. Conarty, and C. L. Plesnicher* H2529
- T-type calcium currents in rat cardiomyocytes during postnatal development: contribution to hormone secretion  
*V. Leuranguer, A. Monteil, E. Bourinet, G. Dayanithi, and J. Nargeot* H2540
- Responses of neurons in rostral ventrolateral medulla to activation of cardiac receptors in rats  
*D.-P. Li and H.-L. Pan* H2549

---

## SPECIAL COMMUNICATIONS

- Assessing baroreflex gain from spontaneous variability in conscious dogs: role of causality and respiration  
*A. Porta, G. Baselli, O. Rimoldi, A. Malliani, and M. Pagani* H2558
- Myofilament lattice spacing as a function of sarcomere length in isolated rat myocardium  
*T. C. Irving, J. Konhilas, D. Perry, R. Fischetti, and P. P. de Tombe* H2568

---

## RAPID COMMUNICATION

- $K_{ATP}$  channels mediate the beneficial effects of chronic ethanol ingestion  
*P. S. Pagel, W. G. Toller, E. R. Gross, M. Gare, J. R. Kersten, and D. C. Warltier* H2571

No. 6. DECEMBER 2000

## SPECIAL MEDICAL EDITORIAL

- Why should we study the coronary microcirculation?  
*G. Sambucetti, A. L'Abbate, and M. Marzilli* H2581

---

## SPECIAL TOPIC

- Prologue: new insights into the regulation of the coronary microcirculation  
*W. M. Chilian and D. D. Gutterman* H2585

- Perfusion-contraction mismatch with coronary microvascular obstruction: role of inflammation  
*H. Dörge, T. Neumann, M. Behrends, A. Skyschally, R. Schulz, C. Kasper, R. Erbel, and G. Heusch* H2587
- Adenosine preconditions against endothelin-induced constriction of coronary arterioles  
*D. Merkus, D. W. Stepp, D. W. Jones, Y. Nishikawa, and W. M. Chilian* H2593
- BK<sub>Ca</sub> channels compensate for loss of NOS-dependent coronary artery relaxation in cardiomyopathy  
*S. G. Clark and L. C. Fuchs* H2598
- Tonic regulation of vascular tone by nitric oxide and chloride ions in rat isolated small coronary arteries  
*J. E. Graves, I. A. Greenwood, and W. A. Large* H2604
- Transmural difference in coronary arteriolar dilation to adenosine: effect of luminal pressure and K<sub>ATP</sub> channels  
*C. Zhang, T. W. Hein, and L. Kuo* H2612
- Human coronary arteriolar dilation to adrenomedullin: role of nitric oxide and K<sup>+</sup> channels  
*K. Terata, H. Miura, Y. Liu, F. Loberiza, and D. D. Gutterman* H2620
- Myocardial ischemia-reperfusion damage after pacing-induced tachycardia in patients with cardiac syndrome X  
*A. Buffon, S. Rigattieri, S. A. Santini, V. Ramazzotti, F. Crea, B. Giardina, and A. Maseri* H2627
- Persistent but reversible coronary microvascular dysfunction after bypass grafting  
*N. Spyrou, M. A. Khan, S. D. Rosen, R. Foale, D. W. Davies, F. Sogliani, R. De Lisle Stanbridge, and P. G. Camici* H2634
- Clinical evidence for myocardial derecruitment downstream from severe stenosis: pressure-flow control interaction  
*G. Sambucetti, M. Marzilli, A. Mari, C. Marini, P. Marzullo, R. Testa, I. Raugei, M. Papini, M. Schluter, and A. L'Abbate* H2641
- Simvastatin upregulates coronary vascular endothelial nitric oxide production in conscious dogs  
*S. Mital, X. Zhang, G. Zhao, R. D. Bernstein, C. J. Smith, D. L. Fulton, W. C. Sessa, J. K. Liao, and T. H. Hintze* H2649
- Evidence for functional role of  $\epsilon$ PKC isozyme in the regulation of cardiac Ca<sup>2+</sup> channels  
*K. Hu, D. Mochly-Rosen, and M. Boutjdir* H2658
- Effects of [K<sup>+</sup>]<sub>o</sub> on electrical restitution and activation dynamics during ventricular fibrillation  
*M. L. Koller, M. L. Riccio, and R. F. Gilmour, Jr.* H2665
- Effect of combined K<sub>ATP</sub> channel activation and Na<sup>+</sup>/H<sup>+</sup> exchange inhibition on infarct size in rabbits  
*S. L. Hale and R. A. Kloner* H2673
- NOC/oFQ PKC-dependent superoxide generation contributes to hypoxic-ischemic impairment of NMDA cerebrovasodilation  
*W. M. Armstead* H2678
- Role for PKC in the adenosine-induced decrease in shortening velocity of rat ventricular myocytes  
*J. W. Lester and P. A. Hofmann* H2685
- Differential role of sarcolemmal and mitochondrial K<sub>ATP</sub> channels in adenosine-enhanced ischemic preconditioning  
*Y. Toyoda, I. Friehs, R. A. Parker, S. Levitsky, and J. D. McCully* H2694
- Role of inwardly rectifying K<sup>+</sup> channels in K<sup>+</sup>-induced cerebral vasodilatation in vivo  
*S. Chrissobolis, J. Ziogas, Y. Chu, F. M. Faraci, and C. G. Sobey* H2704
- Improved cardiac contractile functions in hypoxia-reoxygenation in rats treated with low concentration Co<sup>2+</sup>  
*H. Endoh, T. Kaneko, H. Nakamura, K. Doi, and E. Takahashi* H2713



Diurnal variation of flow-mediated vasodilation in healthy premenopausal women <i>A. Ringqvist, K. Caidahl, A.-S. Petersson, and A. Wennmalm</i>	H2720
Interstitial hydraulic conductivity in a fibrosarcoma <i>X.-Y. Zhang, J. Luck, M. W. Dewhirst, and F. Yuan</i>	H2726
Antiproliferative effect of UTP on human arterial and venous smooth muscle cells <i>P. J. White, R. Kumari, K. E. Porter, N. J. M. London, L. L. Ng, and M. R. Boarder</i>	H2735
Adventitia-derived nitric oxide in rat aortas exposed to endotoxin: cell origin and functional consequences <i>A. L. Kleschyov, B. Muller, T. Keravis, M.-E. Stoeckel, and J.-C. Stoclet</i>	H2743
Nitric oxide: a trigger for classic preconditioning? <i>A. Lochner, E. Marais, S. Genade, and J. A. Moolman</i>	H2752
Effect of estrogen on global myocardial ischemia-reperfusion injury in female rats <i>P. Zhai, T. E. Eurell, R. Cotthaus, E. H. Jeffery, J. M. Bahr, and D. R. Gross</i>	H2766
Force regulates smooth muscle actin in cardiac fibroblasts <i>J. Wang, A. Seth, and C. A. G. McCulloch</i>	H2776
Interleukin-1 $\beta$ and neurogenic control of blood pressure in normal rats and rats with chronic renal failure <i>S. Ye, P. Mozayeni, M. Gamburd, H. Zhong, and V. M. Campese</i>	H2786
Renin-angiotensin system and sympathetic nervous system in cardiac pressure-overload hypertrophy <i>W. S. Akers, A. Cross, R. Speth, L. P. Dwoskin, and L. A. Cassis</i>	H2797
Angiotensin II enhances $\beta$ -adrenergic receptor-mediated vasorelaxation in aortas from young but not old rats <i>W. E. Schutzer, H. Xue, J. F. Reed, J.-B. Roullet, S. Anderson, and S. L. Mader</i>	H2807
TNF- $\alpha$ increases entry of macromolecules into luminal endothelial cell glycocalyx <i>C. B. S. Henry and B. R. Duling</i>	H2815
PR-39, a potent neutrophil inhibitor, attenuates myocardial ischemia-reperfusion injury in mice <i>M. R. Hoffmeyer, R. Scalia, C. R. Ross, S. P. Jones, and D. J. Lefer</i>	H2824
Mechanisms by which bradykinin promotes fibrosis in vascular smooth muscle cells: role of TGF- $\beta$ and MAPK <i>C. D. Douillet, V. Velarde, J. T. Christopher, R. K. Mayfield, M. E. Trojanowska, and A. A. Jaffa</i>	H2829
Distension of urinary bladder induces exaggerated coronary constriction in smokers with early atherosclerosis <i>T.-M. Lee, S.-F. Su, W.-Y. Suo, C.-Y. Lee, M.-F. Chen, Y.-T. Lee, and C.-H. Tsai</i>	H2838
Enhanced gene expression of Na <sup>+</sup> /Ca <sup>2+</sup> exchanger attenuates ischemic and hypoxic contractile dysfunction <i>T. G. Hampton, J.-F. Wang, J. Deangelis, I. Amende, K. D. Philipson, and J. P. Morgan</i>	H2846
Negative inotropism of hyperthermia increases oxygen cost of contractility in canine hearts <i>A. Saeki, Y. Goto, K. Hata, T. Takasago, T. Nishioka, and H. Suga</i>	H2855
Hepatocyte growth factor is upregulated by low-density lipoproteins and inhibits endothelin-1 release <i>C. Haug, A. Schmid-Kotsas, U. Zorn, M. G. Bachem, S. Schuett, A. Gruenert, and E. Rozdzinski</i>	H2865
NADH/NAD redox state of cytoplasmic glycolytic compartments in vascular smooth muscle <i>J. T. Barron, L. Gu, and J. E. Parrillo</i>	H2872
Distinct roles for L- and T-type Ca <sup>2+</sup> channels in regulation of atrial ANP release <i>J. F. Wen, X. Cui, J. S. Ahn, S. H. Kim, K. H. Seul, S. Z. Kim, Y. K. Park, H. S. Lee, and K. W. Cho</i>	H2879

- Regulation of endothelial heme oxygenase activity during hypoxia is dependent on chelatable iron  
S. W. Ryter, M. Si, C.-C. Lai, and C.-Y. Su H2889
- Low  $[Mg^{2+}]_o$  induces contraction and  $[Ca^{2+}]_i$  rises in cerebral arteries: roles of  $Ca^{2+}$ , PKC, and PI3  
Z.-W. Yang, J. Wang, T. Zheng, B. T. Altura, and B. M. Altura H2898
- Renal vasodilatory influence of endogenous carbon monoxide in chronically hypoxic rats  
T. L. O'Donoghue and B. R. Walker H2908
- Striated muscle-specific  $\beta_{1D}$ -integrin and FAK are involved in cardiac myocyte hypertrophic response pathway  
C. G. Pham, A. E. Harpf, R. S. Keller, H. T. Vu, S.-Y. Shai, J. C. Loftus, and R. S. Ross H2916
- Effects of increased pressure inside or outside ventricles on total and regional myocardial blood flow  
G. S. Aldea, H. Mori, W. K. Hussein, R. E. Austin, and J. I. E. Hoffman H2927
- Diastolic wall stress and ANG II in cardiac hypertrophy and gene expression induced by volume overload  
H. Yamakawa, T. Imamura, T. Matsuo, H. Onitsuka, Y. Tsumori, J. Kato, K. Kitamura, Y. Koiwaya, and T. Eto H2939
- Hemoglobin and red blood cells alter the response of expired nitric oxide to mechanical forces  
J. T. Berg, S. Deem, M. E. Kerr, and E. R. Swenson H2947
- Interleukin-6 induces demargination of intravascular neutrophils and shortens their transit in marrow  
T. Suwa, J. C. Hogg, D. English, and S. F. Van Eeden H2954
- Pharmacological profile of depressor response elicited by sarthran in rat ventrolateral medulla  
S. Ito and A. F. Sved H2961
- Enhanced cAMP-induced nitric oxide-dependent coronary dilation during myocardial stunning in conscious pigs  
R. K. Kudej, X.-P. Zhang, B. Ghaleh, C.-H. Huang, J. B. Jackson, A. B. Kudej, N. Sato, S. Sato, D. E. Vatner, T. H. Hintze, and S. F. Vatner H2967
- Dobutamine enhances both contractile function and energy reserves in hypoperfused canine right ventricle  
K. D. Yi, H. F. Downey, X. Bian, M. Fu, and R. T. Mallet H2975
- c-Fos expression in the midbrain periaqueductal gray during static muscle contraction  
J. Li and J. H. Mitchell H2986
- Effects of exercise training on cardiac function, gene expression, and apoptosis in rats  
H. Jin, R. Yang, W. Li, H. Lu, A. M. Ryan, A. K. Ogasawara, J. Peborgh, and N. F. Paoni H2994
- Mechanisms of  $I_{Ks}$  suppression in LQT1 mutants  
L. Bianchi, S. G. Priori, C. Napolitano, K. A. Surewicz, A. T. Dennis, M. Memmi, P. J. Schwartz, and A. M. Brown H3003
- Renin-angiotensin system inhibition on noradrenergic nerve terminal function in pacing-induced heart failure  
H. Kawai, S. Y. Stevens, and C.-S. Liang H3012
- Interaction between angiotensin II and Smad proteins in fibroblasts in failing heart and in vitro  
J. Hao, B. Wang, S. C. Jones, D. S. Jassal, and I. M. C. Dixon H3020
- Urocortin, a member of the corticotropin-releasing factor family, in normal and diseased heart  
T. Nishikimi, A. Miyata, T. Horio, F. Yoshihara, N. Nagaya, S. Takishita, C. Yutani, H. Matsuo, H. Matsuoaka, and K. Kangawa H3031
- Detection and sources of nonlinearity in variability of cardiac R-R intervals and blood pressure in rats  
J. J. González, J. J. Cordero, M. Fera, and E. Pereda H3040

- Form and function of fetal and neonatal pulmonary arterial bifurcations  
*S. H. Bennett, M. W. Eldridge, D. Zaghi, S. E. Zaghi, J. M. Milstein,  
 and B. W. Goetzman* H3047
- Relation between regional function and coronary blood flow reserve in multivessel  
 coronary artery stenosis  
*J.-P. Bin, R. A. Pelberg, K. Wei, M. Coggins, N. C. Goodman, and S. Kaul* H3058
- Inhibition of coronary thrombosis and local inflammation by a noncarbohydrate  
 selectin inhibitor  
*P. Zoldhelyi, P. J. Beck, R. J. Bjercke, J. C. Ober, X. Hu, J. M. McNatt,  
 S. Akhtar, M. Ahmed, F. J. Clubb, Jr., Z.-Q. Chen, R. A. F. Dixon,  
 E. T. H. Yeh, and J. T. Willerson* H3065
- Slow intercellular  $\text{Ca}^{2+}$  signaling in wild-type and Cx43-null neonatal mouse  
 cardiac myocytes  
*S. O. Suadicani, M. J. Vink, and D. C. Spray* H3076
- Nitroprusside induces cardiomyocyte death: interaction with hydrogen peroxide  
*S. W. Rabkin and J. Y. Kong* H3089

---

### SPECIAL COMMUNICATIONS

- Cellular and functional defects in a mouse model of heart failure  
*G. Esposito, L. F. Santana, K. Dilly, J. Dos Santos Cruz, L. Mao,  
 W. J. Lederer, and H. A. Rockman* H3101
- Comparing cardiac action potentials recorded with metal and glass microelectrodes  
*C. Omichi, M.-H. Lee, T. Ohara, A. M. Naik, N. C. Wang,  
 H. S. Karagueuzian, and P.-S. Chen* H3113
- Measurement of the activation time of oxidative phosphorylation in isolated  
 mouse hearts  
*L. A. Gustafson and J. H. G. M. Van Beek* H3118
- Design and construction of a uniaxial cell stretcher  
*M. J. Yost, D. Simpson, K. Wrona, S. Ridley, H. J. Ploehn, T. K. Borg,  
 and L. Terracio* H3124
- Spinotrapezius muscle microcirculatory function: effects of surgical exteriorization  
*J. K. Bailey, C. A. Kindig, B. J. Behnke, T. I. Musch,  
 G. W. Schmid-Schoenbein, and D. C. Poole* H3131

---

### RAPID COMMUNICATION

- HIV gp120 enhances NO production by cardiac myocytes through p38 MAP kinase-  
 mediated NF- $\kappa$ B activation  
*H. Kan, Z. Xie, and M. S. Finkel* H3138

---

### LETTERS TO THE EDITOR

- Expression of angiogenic growth factors in human skeletal muscle in response  
 to a singular bout of exercise  
*T. Gustafsson* H3144
- Complementary studies of exercised-induced angiogenic growth factors in human  
 skeletal muscle  
*R. S. Richardson* H3146

---

The Journal no longer publishes print subject and author indexes. Full searchability  
 is available in the online version (<http://www.ajpheart.org>).